

We claim:

1. A system for enhanced removal of organic particles from wastewater streams flowing from oil and gas wells, said wastewater stream comprising at least a portion of an overall fluid stream flowing from said oil and gas wells, the system comprising:

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- a) a flotation unit;
- b) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit,

where said oil and gas well wastewater stream sequentially flows first through said flotation unit and then through said cellulose-based filter media.

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2. The apparatus of Claim 1, further comprising a sock-type filter fluidly coupled to said cellulose-based filter media upstream of said cellulose-based filter media.

3. The apparatus of Claim 2, further comprising a carbon-element filter disposed in said wastewater stream downstream of said cellulose-based filter media.

4. The apparatus of Claim 1, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following chemical stimulation of said oil and gas well.

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5. The apparatus of Claim 1, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following completion of said oil and gas well.

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6. A system for enhanced removal of organic contaminants from wastewater streams generated from transmission pipeline operations, the system comprising:

- a) a flotation unit;
- b) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit,

where said wastewater stream sequentially flows first through said flotation unit and then through said cellulose-based filter media.

7. The apparatus of Claim 6, further comprising a sock-type filter fluidly coupled to said cellulose-based filter media upstream of said cellulose-based filter media.

- 5 8. The apparatus of Claim 7, further comprising a carbon-element filter disposed in said wastewater stream downstream of said cellulose-based filter media.

9. The apparatus of Claim 6, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following chemical stimulation of said oil and gas well.

- 10 10. The apparatus of Claim 6, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following completion of said oil and gas well.

11. A method for removing organic contaminants from a wastewater stream, said wastewater stream comprising at least a portion of an overall fluid stream flowing from an oil and gas well, comprising the steps of:

a) providing an apparatus comprising:

i) a flotation unit;

ii) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit;

b) fluidly coupling said apparatus to said wastewater stream;

c) flowing said wastewater stream through said apparatus and monitoring an organic content of said wastewater stream discharged from said apparatus, to ensure a discharged organic level within a desired range; and

d) routing said wastewater stream to an ultimate disposal location.